Take-home Quiz

1. Suppose you want to know whether there is an association between gender and education. You use StatCrunch and conduct a Chi-Square test between the variables SEX and HIGHEST DEGREE. StatCrunch produces the output below. What is your conclusion (including your justification).

	0 - Less than HS	1 - High School	2 - Junior College	3 - Bachelor	4 - Graduate	Total
Female	163	549	93	182	106	1093
	(14.91%)	(50.23%)	(8.509%)	(16.65%)	(9.698%)	(100.00%)
	160.5	542.2	93.52	191.9	104.9	
Male	134	454	80	173	88	929
	(14.42%)	(48.87%)	(8.611%)	(18.62%)	(9.473%)	(100.00%)
	136.5	460.8	79.48	163.1	89.13	
Total	297	1003	173	355	194	2022
	(14.69%)	(49.6%)	(8.556%)	(17.56%)	(9.594%)	(100.00%)

Chi-Square test:

Statistic	DF	Value	P-value
Chi-square	4	1.4124166	0.842

2. Suppose the correlation coefficient between two variables x and y turns out to be -0.89. What does this mean?

3. For which type of variables is a Chi-Square test appropriate, for which do you compute a correlation coefficient? Which one provides more information?

4. For the data below we computed Sxx = 8, Syy = 12.67, Sxy = 10, and x_bar = 4, y_bar = 8.33.

X	Y
2	7
4	8
6	11

Compute the correlation coefficient r, and the equation of the least square regression line

$\quad$ y = mx + b

Use that equation to predict y for x = 5.